

WE CLAIM:

1. A hinge member arranged to provide electrical connection between electrical circuits on a first body and electrical circuits on a second body pivotably mounted to said first body, comprising:

a bracket mounted on said first body;

a cylinder having an axis arranged to be mounted on said second body and pivot therewith, said cylinder being arranged to be rotatably received in said bracket, said cylinder being formed in at least two cylinder portions having mating surfaces extending in the direction of said axis, said cylinder having a plurality of circumferential grooves and three dimensional electrical conductors in selected portions of said grooves, each said conductors extending onto at least one of said mating surfaces;

spring contacts rotatably received in at least some of said grooves and having ends extending into said bracket, said spring contact ends being arranged to connect to at least one circuit on said first body; and

at least one interconnection member received between said mating surfaces of said cylinder and arranged to interconnect said three dimensional electrical conductors to at least one circuit on said second body.

2. A hinge member as specified in claim 1 wherein said cylinder is a circular cylinder.

3. A hinge member as specified in claim 1 wherein said mating surfaces are planar surfaces.

4. A hinge member as specified in claim 3 wherein said mating surfaces are partially undercut and wherein said conductors extend onto undercut portions of said mating surfaces.

5. A hinge member as specified in claim 1 wherein said conductors in alternate ones of said grooves extend onto said mating surface of a first cylinder portion and wherein said conductors in remaining ones of said grooves extend onto said mating surface of a second cylinder portion.

6. A hinge member as specified in claim 1 wherein said cylinder is received in said bracket at a first axial end and wherein said cylinder is arranged to be mounted to said second body at a second axial end.

7. A hinge member as specified in claim 1 wherein each of said spring contacts includes a circular spring portion which is received in said grooves.

8. A hinge member as specified in claim 4 wherein each of said spring contact ends comprises a spring contact tail for connection to said at least one circuit on said first body.

9. A hinge member as specified in claim 8 wherein said contact tails have a bottom portion for contacting said at least one circuit and side portions for retaining said spring contact in a slot on said bracket.

10. A hinge member as specified in claim 1 wherein said interconnection member comprises a substrate having conductors on two sides thereof for contacting said conductors on said mating surfaces of said cylinder portions.

11. A hinge member as specified in claim 10 wherein said substrate is flexible.

12. . A hinge member arranged to provide electrical connection between electrical circuits on a first body and electrical circuits on a second body pivotably mounted to said first body, comprising:

a bracket mounted on said first body;

a circular cylinder having an axis arranged to be mounted on said second body and pivot therewith, said cylinder being arranged to be rotatably received in said bracket, said cylinder being formed in two cylinder halves having planar mating surfaces extending in the direction of said axis, said cylinder having a plurality of circumferential grooves and three dimensional electrical conductors in selected portions of said grooves, each of said conductors extending onto at least one of said mating surfaces;

circular spring contacts rotatably received in at least some of said grooves and having ends extending into said bracket, said spring contact ends being arranged to connect to at least one circuit on said first body; and

at least one interconnection member comprising a substrate, having conductors on both sides thereof, received between said mating surfaces of said cylinder and arranged to interconnect said three dimensional electrical conductors to at least one circuit on said second body.